

REMARKS

In light of the previous Amendments and following Remarks, reconsideration and allowance of the above-captioned application are respectfully requested.

Prior to the attached submission, Applicants have submitted four previous Information Disclosure Statements in this application citing references for the Examiner's consideration. Specifically, previous Statements dated August 14, 2000, September 28, 2000, August 20, 2001, and April 24, 2002 have been submitted. Applicants have not yet received return copies for three of these Statements indicating that the listed references have been considered by the Examiner. Specifically, applicants have not received initialed and signed listings for those Statements filed August 14, 2000, September 28, 2000, and April 24, 2002. Applicants respectfully request such at the Examiner's convenience.

Claims 1, 2, 4, 7, 25-26, 28, 30-34 and 36 are presently pending in this application, including independent claims 1 and 28. In the Office Action, all pending claims except claim 5 were rejected under 35 U.S.C. §112, 1st paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. In addition, claims 1, 2, 25, 26, 28, 29, and 34 were rejected under 35 U.S.C. 102(b) as being anticipated by Xu, et al. In addition, claim 5 was objected to as being dependent upon a rejected base claim.

In the presently presented claims, and in an effort to further prosecution of the application, the limitations of claim 5 have been incorporated into independent claim 1. Accordingly, claims 1, 2, 4, 7, 25, and 26 are believed to be allowable. However, for the record, applicants respectfully submit that a person skilled in the art, on reading the disclosure of the pending application, would clearly understand that any fluorescent protein engineered to contained the described protease cleavage site, but not limited to having SEQ ID NO: 41 therein (as in presently amended claim 1), would be encompassed by the invention.

Xu, et al. is directed to a hybrid protein material in which two fluorescent proteins of different colors can be covalently linked by a short peptide. As correctly pointed out in the Office Action, the specific teaching of Xu, et al. includes the linkage of green fluorescent protein by an 18 amino acid peptide containing the caspase-3 (CPP32) cleavage site, DEVD, to blue fluorescent protein. Applicants respectfully submit, however, that the linkage of two fluorescent proteins via a short peptide does not produce a single fluorescent protein, as is suggested in the Office Action. Rather, such a linkage would form a hybrid, chimeric, or fusion protein, as is clearly described in Xu, et al. In addition, the hybrid protein of Xu, et al. includes a caspase cleavage site between the two single fluorescent proteins, and not, as is taught in the presently pending claims, within a single fluorescent protein. However, in an effort to advance prosecution of the pending application, presently pending independent claim 28 has been herein amended to include the limitation of a single chromophore, so as to distinguish the presently pending claims even more clearly from the teachings of Xu, et al.

In the Office Action, claim 28 and the associated dependent claims were also rejected under 35 U.S.C. §112, 1st paragraph. In particular, it was stated that the specification fails to describe additional representative members of the fluorescent proteins by any identifying structural characteristics or properties. Applicants respectfully fail to understand the basis of this rejection. The specification of the pending application discloses no less than 23 representative members of these fluorescent proteins. Moreover, these members have been disclosed not only according to common characteristics and properties of the members (e.g., inclusion of any of a number of specific protease recognition sites, location of insertion points, functional characteristics upon cleavage, etc.), but in addition, representative members of these fluorescent proteins have been disclosed in the specification according to specific structure of each of the members (SEQ ID NO.: 33-55). Applicants find this rejection further puzzling in light of the fact that 15 individual members of the genus were originally claimed in the application and restriction to

one of the claimed species has previously been required (election of species D9 being made with traverse in the response filed August 20, 2001).

Applicants respectfully submit that the presently pending claims fully satisfy the requirements of 35 U.S.C. §112, and in particular, the written description requirement, the enablement requirement, and the best mode requirement. For instance, at page 9, second paragraph of the specification, it is clearly indicated that "The invention also extends to fluorescent proteins other than GFP, and in particular concerns BFP....such that they incorporate a cleavage site for a protease, such that cleavage of said modified fluorescent protein at said cleavage site by said protease causes the alteration of at least one of the emission and excitation spectra of said modified fluorescent protein." From at least this paragraph, it is clear to one of ordinary skill in the art that the crux of the invention is not any particular protein sequence but the overall construction of the fluorescent protein, e.g., the incorporation of a cleavage site within a single fluorescent protein.

For the record, applicants submit that the limitation of claim 28 to green fluorescent protein has not been made for reasons of patentability, but rather in an effort to advance prosecution of the pending application. In particular as the specification is clearly enabling for (and applicable to) fluorescent proteins other than GFPs, and a person of ordinary skill in the art would recognize not only that the inventors have possession of the invention, but could also make and use the same. There are, of course, many fluorescent proteins, but the invention of presently pending claim 28 has been limited for purposes of advancement of the pending application to a single genetically engineered green fluorescent protein having one chromophore. Any green fluorescent protein could be used in the context of the present invention and is encompassed by presently pending claim 28 as long as the overall construction matches all of the features of pending claim 28.

It is believed that the present application is in complete condition for allowance and favorable action, therefore, is respectfully requested. Examiner Fronda is invited and encouraged to telephone the undersigned, however, should any issues remain after consideration of this response.

Appl. No. 09/551,380
Response Dated May , 2005
Reply to Office Action of February 28, 2005

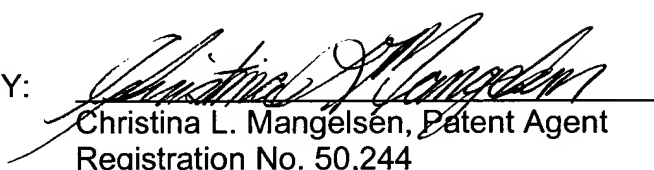
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Respectfully submitted,

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5/27/05

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